

REFERENCES

- AITKIN, W. W. (1937): Albinism in *Ictalurus punctatus*. *Copeia* : 64.
- DEAN, B. (1923): A bibliography of fishes. American Museum of Natural History, New York : 393.
- HORA, S. L. (1926): An albino Magur, *Clarias batrachus* (Linn.). *Jour. proc. Asiatic. Soc. Bengal.* 22 : 131.
- JONES, S. & PANTULU, V. R. (1952): A remarkable case of albinism in *Anguila bengalensis*. *J. Bombay nat. Hist. Soc.* 51 (1) : 285-286.
- GUPTA, P. D. & BHOWMIC, R. M. (1958): An interesting case of Albinism in *Arius jella* Day, from India. *Sci. and cult.* 24 (6) : 283.

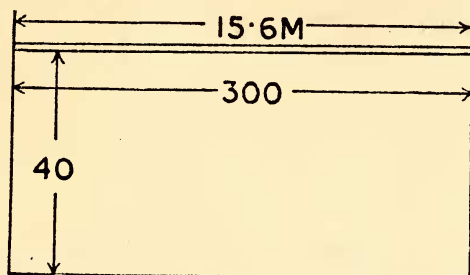
19. ON THE INTRODUCTION OF *PHASLA JAL*, A GILL NET, FOR CATCHING *HILSA* IN THE GANGA AND YAMUNA NEAR ALLAHABAD

(With a text-figure)

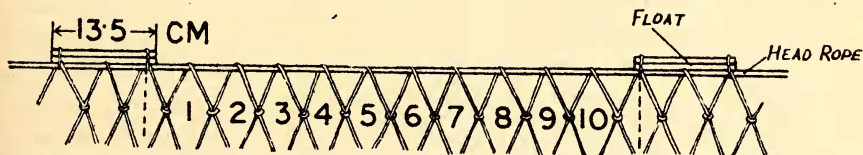
A detailed account of the fishing nets and traps employed in a section of the middle reaches of the Ganga River System, during 1963 has been given by Saxena (1966). At that time he reported, that gill net was not used in this stretch for catching *Hilsa*, although major carps and cat-fishes were being caught with gill nets, such as *Tiar* and *Gochail*. Jones (1959 a & b) while describing fishing gears used for the capture of *Hilsa*, has also not recorded this gear. The net described here has been recently introduced in the Ganga and Yamuna near Allahabad reportedly during 1964. Lightness, convenience for operation, better yield with less effort are the advantages of this net. Probably because of these, the net has gained popularity in this region within a very short period, in spite of the high initial cost owing to nylon being used in its fabrication. The cost of the net comes to approximately fifty rupees.

Made of nylon twine of varying thickness, a single piece of the net commonly known as *Phasla Jal*, has 280-300 meshes across and 40-50 meshes in depth. The head rope, usually 1-2 mm. in thickness and made of either nylon or cotton, measures 15.62 m. in length. Floats, made of several thin reeds joined together and measuring 13.5 cm. in length and 4 mm. in diameter, are tied to the head rope at intervals of 38.5 cm. leaving about 10 meshes free in between every two floats. Usually one mesh is left free along the length of the float (Figs. 1 and 2). Two to three such pieces are usually joined together in operation. The most common mesh sizes encountered are 8.5 cm., 9.0 cm. and 10.5 cm. (stretched). Sometimes pieces of different mesh sizes are also combined together for catching different size groups. The net is quite often dyed blue probably as a camouflage. A notable feature of the net is the complete absence of the bottom rope and sinkers.

Two men and a small boat (*dongi*) are required to operate this net. The net is payed out across the river where the current is sluggish. Ascen-



1



2

Fig. 1. A single piece of *Phasla Jal*.

Fig. 2. Showing arrangement of floats and meshes.

ding or descending *Hilsa* trying to pass through the body of the net get gilled. Often they get enmeshed in the net due to its loose lower margin. The enmeshed fish are taken out immediately, so that the effective catching area of the net is not reduced for subsequent catches. *Phasla* is operated throughout the year except during the monsoon months, when fast currents prevent its operation. The net is operated both in the Ganga and Yamuna where the required depth and current occur during the greater part of the year. The net is usually operated during night.

Phasla Jal of bigger mesh-size (19.0-20.00 cm.) and made of thicker nylon fibre is used for catching major carps and catfishes. *Phasla Jal* resembles the *Tiar* of Ganga, *Rangoon-vala* of Andhra, *Ulla-valai* of Madras and *Amyaw-paik* of Burma.

ACKNOWLEDGEMENTS

The authors are thankful to Shri H. P. C. Shetty, Senior Research Officer for his kind help in the preparation of this note.

CENTRAL INLAND FISHERIES
RESEARCH INSTITUTE,
30, PANNALAL ROAD,
ALLAHABAD-2.

R. K. SAXENA
RAVISH CHANDRA

September 21, 1967,

REFERENCES

- SAXENA, R. K. (1966): *Proc. Indo-Pacif. Fish. Coun.* **11** (2): 250-71. (Hamilton) in the Indian region. *J. Bombay nat. Hist. Soc.* **56**: 250-75; 423-48.
- JONES, S. (1959): Fishing methods for the Indian Shad [*Hilsa ilisha*

20. FOOD HABITS OF THE BULL FROG *RANA TIGERINA* (DAUD.)

A good deal of literature is available on the natural food of the Indian Bull Frog, *Rana tigerina* (Daud). The reported observations could be conveniently put under two heads, direct observations while feeding and those based on examination of gut contents. Aitken (1895), Gostling (1895), Whiffin (1895), Sundera Raj (1915), Davidson (1916), Zutshi (1926), McCann (1933), Rao & Cherian (1940), Dharmakumarsinhji (1940), and Bhaduri (1945) have made direct observations while Chibber (1911), Agharkar (1912), Mullan (1912), Mahendra (1929), Iswar Prakash (1953), and Wadekar (1963), studied the gut contents. The direct observations give us knowledge of the food, the feeding mechanism, defence of the prey, etc., but considering the food factor direct observations are usually isolated cases of unusual rather than normal food, whereas the records of the gut contents show the overall picture of the general diet.

The present data is based on the gut-contents of frogs made available for dissections to students. The data is based on material collected from 100 selected frogs received during the period of 14th July 1961 to 29th August 1961. After killing with chloroform, the frogs were weighed, sexed and frogs with enlarged belly were dissected out to collect the stomach contents. Frogs showing even little stomach contents were taken into account.

The major contents of the stomach of *R. tigerina* are tabulated below. The species appears to be polyphagous.

DISCUSSION

Out of the 100 frogs dissected for their stomach contents 64 were females and 36 males. Frogs with their stomach contents weighed between 80 and 313 gm. with an average weight of 144 gm. It was ascertained that the frogs were locally collected from the Greater Bombay area.

It appears from the above data that land crabs, insects and juvenile frogs are the major food items. Land crabs are regarded as one of the major pests of paddy (Kadam *et al.* 1960) and are known at some stages of their life to feed on rice seedling both before and after transplanting. They also cause damage by forming holes in the embankments of fields.